

What is claimed is:

1. A contactless push-button device comprising:
 - a push-button element that is linearly displaceable between a first position and a second position and biased to move from the second position to the first position;
 - a magnet mounted to the push button element;
 - a Hall Effect transducer mounted in line with the linear displacement direction of the push-button so that when the push-button moves from the first position to the second position the distance between the magnet and the Hall Effect transducer changes;
 - a programmable microprocessor for being assigned a unique address, the programmable microprocessor electrically connected to the Hall Effect Transducer;
2. The contactless push-button device of claim 1, further comprising a plate mounted between the push-button element and the Hall Effect Transducer.
3. The contactless push-button device of claim 1, further comprising a feedback device that is electrically connected to the microprocessor.
4. The contactless push-button device of claim 1, further comprising a system controller that is interfaced with the microprocessor, the controller assigning an address to the push-button device during a start-up procedure.
5. The contactless push-button device of claim 1, wherein the microprocessor is programmed to contain a unique address.
6. The contactless push-button device of claim 3 further comprising:
 - a serial bus connected to the microprocessor; and
 - an elevator controller connected to the serial bus.

7. The contactless push-button switch of claim 6, wherein the serial bus is an RS 485 bus.

8. A switching device comprising:
a Hall Effect transducer;
a movable magnetic element that moves relative to the Hall Effect transducer;
a programmable microprocessor electrically connected to the Hall Effect transducer, the microprocessor programmed to execute a field averaging algorithm to compensate for changes in quiescent Hall Effect voltages, the programmable microprocessor also programmed to contain a unique address; and
a communication interface for connecting the microprocessor to a controller; the communication interface connected to the microprocessor.

9. The switching device of claim 8, wherein the microprocessor is further programmed to detect when the magnetic element moves.

10. An elevator system comprising:
an elevator controller;
a programmable contactless push-button device comprising:
(i) a Hall Effect transducer having a quiescent Hall Effect voltage;
(ii) a moving magnet located in line with the Hall Effect transducer, the moving magnet being linearly displaceable along the line formed by the magnet and the Hall Effect transducer; and
(iii) a microprocessor that is interfaced with the Hall Effect transducer; the microprocessor programmed to calculate running averages for the quiescent voltage, the microprocessor also having a unique address; and

a serial bus connecting the microprocessor to the elevator controller.

11. The elevator system of claim 10, wherein the microprocessor is further programmed to detect when the magnet moves.

12. A contactless, rotary switch device comprising:

a rotating disk having a surface;

one or more magnets disposed on the disk; and

one or more Hall Effect transducers located on a planar surface that is parallel to the surface of the disk, the distance between the Hall Effect transducers and the magnets varying as the disk rotates.

13. The device of claim 12, further comprising a programmable microprocessor that is electrically connected to the microprocessor.

14. The device of claim 13, further comprising a system controller that is interfaced with the microprocessor, the controller for assigning an address to the rotary switch device during a start-up procedure.

15. The device of claim 13, wherein the microprocessor is programmed to contain a unique address.

16. The device of claim 13 further comprising:

a serial bus connected to the microprocessor; and

an elevator controller connected to the serial bus.

17. A switch comprising:

a plurality of Hall Effect transducers disposed on a planar surface;

a rotatable disk that is parallel to the planar surface;

a first set of magnets disposed on the disk, at least two magnets in the first set having their polarities oriented in different directions;

a second set of magnets disposed on the disk, at least two magnets in the second set having their polarities oriented in different directions;

the disk having a first position where one or more magnets in the first set is located over each Hall Effect transducer; and

the disk having a second position where one or more magnets in the second set is located over each Hall Effect transducer, and at least one transducer having a magnet over it with a polarity oriented differently than when the disk is in the first position.

18. The switch of claim 17, further comprising a microprocessor that is interfaced with the Hall Effect transducers.

19. The switch of claim 18, wherein the microprocessor has a unique address.

20. The switch of claim 19, further comprising a serial bus wired to the microprocessor, the serial bus for connecting the switch to an elevator controller.